REMARKS

Claims 2, 4-6, 9, 11-13, and 15-19 are now in the case.

Claims 1, 3, 7, 8, 10 and 14 have been cancelled.

No Claims have been allowed.

The Amendment.

Independent Claim 15 has been amended to positively recite that the recovered protein precipitate has a curd-like appearance. Support for this limitation is found on page 8, lines 24-26, of the specification. This amendment was necessitated by the new ground of rejection, does not constitute new matter, and does not introduce any new issues insofar as Applicant has previously argued in the record that the recovered protein has a curd-like appearance (e.g. page 14 of Appeal Brief).

Request to Withdraw Finality of Rejection.

Applicant hereby requests that the Examiner withdraw the finality of the rejection insofar as it is a new grounds for rejection not resulting from any amendment made by Applicant and to which Applicant has had no previous opportunity to reply. In the interest of advancing the prosecution of this case, Applicant at least requests entry of the above amendment if the Examiner desires to maintain the finality.

The Rejection under 35 U.S.C. §103(a).

Claims 2, 4-6, 8-9, 11-13 and 15-16 were rejected under 35 U.S.C. §103(a) as being unpatentable over Tomasula '265 taken with Dahlstrom *et al*. Withdrawal of this rejection is requested for the following reasons. To the extent applicable, Applicant's remarks submitted in the Appeal Brief in regard to the rejection of these claims over Dahlstrom *et al*. taken with Tomasula '265 are incorporated herein.

The issue of whether or not it would be obvious to the person of ordinary skill in the art to substitute a vegetable protein source for the dairy protein source of Tomasula has already been addressed in the specification (pages 9 and 10). As noted therein, Applicant recognizes that the apparatus described in the '265 patent can be used for the process of treating vegetable protein in accordance with the invention. However, the chemistry and operating conditions of the respective processes are different. The casein proteins treated by Tomasula are linked by calcium phosphate bonds that must be broken so that individual proteins are held in solution/dispersion. The temperature of the solution/dispersion is then adjusted, causing the proteins to agglomerate, thereby entrapping other solids and

dissolved materials within the network of agglomerated proteins. Thus, the Tomasula process is specifically temperature-dependent.

In the present invention, there is no dissolving of calcium phosphate bonds to free the proteins. The vegetable proteins of the invention (gluten, glutenin, zein glycinin and gliadin) precipitate isoelectrically, wherein the change in pH of the solution/dispersion causes decreased solubility of selected proteins. Those specific proteins (which fortuitously are the desirable proteins) precipitate from the solution/dispersion, leaving behind other dissolved materials.

The Examiner relies upon Tomasula to show a continuous CO_2 process applied to precipitation of compounds other than casein from solution, and particularly any substance that is known to precipitate in acidic media. The Examiner cites Dahlstrom for the teaching that either milk or soy protein can be coagulated with carbonic (or other) acids, and uses this as the link for his position that it would be obvious to treat soy protein by the process of Tomasula.

Applicant submits that this *prima facie* holding of obviousness must fail for several reasons. The only example of efficacy given by Tomasula is with milk proteins. Applicant does not refute the teachings in Tomasula regarding applicability of

the CO_2 process to other proteins for the primary purpose of precipitating those proteins. However, there is nothing in Tomasula to suggest that when vegetable proteins are precipitated, they can be recovered as curds rather than as fine particulate solids. As indicated above, the vegetable proteins are different from milk proteins, are much more varied than the singular casein protein precipitated by Tomasula, and would not be expected to behave in the same way when subjected to the carbon dioxide treatment of the reference.

Though Dahlstrom teaches precipitating protein from various sources with food grade acids, there is nothing in Dahlstrom to indicate that vegetable proteins can be precipitated with acid in a system other than that specifically described in the reference. Applicant has gone to great length to point out that the ultrasonic treatment of Dahlstrom operates completely differently from the system of Tomasula (see Brief, pages 8-14). The resultant atomized protein precipitate of Dahlstrom is texturally and functionally different from the cottage cheese-like curd of Tomasula.

Finally, until the vegetable proteins of Dahlstrom are actually subjected to the treatment process of Tomasula, there would be no way for the person in the art to predict whether the

curd-like properties of the product are a result of the source material being treated, a function of the treatment process, or both. As discussed in Applicant's Brief, the ultrasonic device of Dahlstrom will inevitably yield a product having very small particle sizes (below 0.10 microns). But there is no way of knowing from the applied references if there is the potential for an alternative treatment (such as that of Tomasula) to yield a vegetable protein product having curd-sized particles.

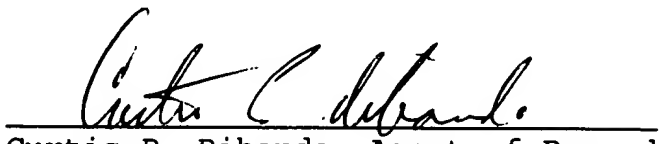
Summary.

Applicant has amended the claims to positively recite that the protein precipitate is curd-like in appearance. Even though there may be a general suggestion in Tomasula to precipitate proteins other than milk proteins, there is no specific teaching or suggestion in the applied references that the process of Tomasula could be used to obtain a curd from a vegetable protein. This is a completely new and unexpected use of high pressure CO_2 treatment.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached pages are captioned **"Version With Markings To Show Changes Made."**

Accordingly, Claims 2, 4-6, 9, 11-13, and 15-19 are deemed to be in condition for allowance and a favorable action on the merits of the case is earnestly solicited.

Respectfully submitted,



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Attachments:
- Version With Markings To Show Changes Made

Version With Markings to Show Changes Made

In the claims:

Rewrite Claim 15 as follows:

15. (Amended) A process for providing a concentrate of vegetable protein comprising:

a) applying carbon dioxide at a pressure of from about 400 to 800 pounds per square inch (psi) to an initial solution/dispersion of a vegetable protein source having a protein concentration of less than 80% by total weight of solids, wherein said carbon dioxide forms carbonic acid (H_2CO_3) in the solution/dispersion and lowers the pH below about 5.5;

b) holding the pressurized solution/dispersion at a pressure of from about 400 to 800 psi for at least 1 minute in order to precipitate the vegetable protein;

c) gradually depressurizing the solution/dispersion in order to maintain particle size of the protein precipitate;

d) separating said protein precipitate from said solution/dispersion; and

e) recovering a solid protein precipitate having a concentration of protein greater than 85% by total weight of solids in said precipitate (and having a curd-like appearance.)